

**ABSTRACT OF THE DISCLOSURE**

A process is presented for realizing buried microchannels (10) in an integrated structure (1) comprising a monocrystalline silicon substrate (2). The process forms in the substrate (2) at least one trench (4). A microchannel (10) is obtained starting from a small surface port of the trench (4) by anisotropic etching of the trench. The microchannel (10) is then completely buried  
5 in the substrate (2) by growing a microcrystalline structure to enclose the small surface port.